AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (currently amended): A method for detecting peaks of a correlation signal, the method comprising:

determining whether an amplitude of a pulse of the correlation signal exceeds by at least a first delta value an amplitude of a prior peak; and

if so, ~~designating the pulse as a peak and~~ setting an amplitude of ~~the~~ a new peak as the amplitude of the prior peak increased by a second delta value, wherein the second delta value is a value of a ~~nondecreasing~~ an increasing function of the time between the prior peak and the pulse.

Claim 2 (previously presented): The method of claim 1, wherein the first delta value equals the second delta value.

Claim 3 (cancelled):

Claim 4 (previously presented): The method of claim 1, wherein the second delta value is a value of a nondecreasing function of the prior peak amplitude.

Claim 5 (previously presented): The method of claim 1, wherein the second delta value is a value of a function of the prior peak amplitude and the time between the prior peak and the pulse.

Claim 6 (previously presented): The method of claim 2, wherein the second delta value is a value of a function of the prior peak amplitude and the time between the prior peak and the pulse.

Claim 7 (original): The method of claim 1, further comprising:

determining whether the amplitude of the correlation signal pulse falls below an amplitude of the prior peak less a droop value; and

if so, not designating the pulse as a peak.

Claim 8 (currently amended): The method of claim 7, ~~wherein~~ further comprising:

if the amplitude of the correlation signal pulse falls between the prior peak amplitude less the droop value and the prior peak amplitude increased by the first delta value, ~~designating the pulse as a peak and~~ setting the amplitude of the peak as the amplitude of the correlation signal pulse.

Claim 9 (original): The method of claim 7, wherein the droop value is a value of a nondecreasing function of the time between the prior peak and the pulse.

Claim 10 (original): The method of claim 7, wherein the droop value is a value of a nondecreasing function of the prior peak amplitude.

Claim 11 (original): The method of claim 7, wherein the droop value is a value of a function of the prior peak amplitude and the time between the prior peak and the pulse.

Claim 12 (currently amended): The method of claim 1, further comprising:

bandpass filtering an input signal with a bandpass filter having a transfer function ~~shape~~; and

correlation filtering the bandpass filtered signal with a correlation filter having a transfer function ~~shape substantially similar to~~ based upon the transfer function ~~shape~~ of the bandpass filter.

Claim 13 (original): The method of claim 12, the correlation signal peaks corresponding to positions of marks on a medium, wherein the bandpass filtering attenuates DC and frequencies above a cutoff frequency, the cutoff frequency determined by a low-noise frequency response region of a spectrum representative of each mark.

Claim 14 (original): The method of claim 13, wherein the medium is magnetic tape.

Claim 15 (original): The method of claim 14, wherein the marks are servo marks on the tape.

Claim 16 (original): The method of claim 15, wherein the servo marks are optically detectable.

Claim 17 (original): The method of claim 16, wherein the servo marks are optically detectable on a surface of the tape opposite a magnetic surface of the tape.

Claim 18 (currently amended): A correlation receiver for detecting peaks of a correlation signal, the correlation receiver comprising:

a master peak detector for determining whether an amplitude of a pulse of the correlation signal exceeds by at least a first delta value an amplitude of a prior peak; and, if so, ~~designating the pulse as a peak and~~ setting an amplitude of ~~the~~ a new peak as the amplitude of the prior peak increased by a second delta value, wherein the second delta value is a value of ~~a nondecreasing~~an increasing function of the time between the prior peak and the pulse.

Claim 19 (previously presented): The correlation receiver of claim 18, wherein the first delta value equals the second delta value.

Claim 20 (cancelled):

Claim 21 (previously presented): The correlation receiver of claim 18, wherein the second delta value is a value of a nondecreasing function of the prior peak amplitude.

Claim 22 (previously presented): The correlation receiver of claim 18, wherein the second delta value is a value of a function of the prior peak amplitude and the time between the prior peak and the pulse.

Claim 23 (previously presented): The correlation receiver of claim 19, wherein the second delta value is a value of a function of the prior peak amplitude and the time between the prior peak and the pulse.

Claim 24 (previously presented): The correlation receiver of claim 18, wherein the master peak detector is operable to determine whether the amplitude of the correlation signal pulse falls below an amplitude of the prior peak less a droop value, and, if so, not designate the pulse as a peak.

Claim 25 (currently amended): The correlation receiver of claim 24, wherein the master peak detector is operable to determine whether the amplitude of the correlation signal pulse falls between the prior peak amplitude less the droop value and the prior peak amplitude increased by the first delta value, and, if so, ~~designate the pulse as a peak and~~ set the amplitude of the new peak as the amplitude of the correlation signal pulse.

Claim 26 (original): The correlation receiver of claim 24, wherein the droop value is a value of a nondecreasing function of the time between the prior peak and the pulse.

Claim 27 (original): The correlation receiver of claim 24, wherein the droop value is a value of a nondecreasing function of the prior peak amplitude.

Claim 28 (original): The correlation receiver of claim 24, wherein the droop value is a value of a function of the prior peak amplitude and the time between the prior peak and the pulse.

Claim 29 (currently amended): The correlation receiver of claim 18, further comprising:

a bandpass filter, having a transfer function ~~shape~~, for bandpass filtering an input signal; and

a correlation filter for correlation filtering the bandpass filtered signal, the correlation filter having a transfer function ~~shape substantially similar to~~ based upon the transfer function ~~shape~~ of the bandpass filter.

Claim 30 (original): The correlation receiver of claim 29, the correlation signal peaks corresponding to positions of marks on a medium, wherein the bandpass filter attenuates DC and frequencies above a cutoff frequency, the cutoff frequency determined by a low-noise frequency response region of a spectrum representative of each mark.

Claim 31 (original): The correlation receiver of claim 30, wherein the medium is magnetic tape.

Claim 32 (original): The correlation receiver of claim 31, wherein the marks are servo marks on the tape.

Claim 33 (original): The correlation receiver of claim 32, wherein the servo marks are optically detectable.

Claim 34 (original): The correlation receiver of claim 33, wherein the servo marks are optically detectable on a surface of the tape opposite a magnetic surface of the tape.

Claim 35 (currently amended): A method for detecting a pulse input signal comprising:

bandpass filtering the input signal with a bandpass filter having a transfer function ~~shape~~;

correlation filtering the bandpass filtered signal with a correlation filter having a transfer function ~~shape substantially similar to~~ based upon the transfer function ~~shape~~ of the bandpass filter; and

detecting peaks of the correlation-filtered signal.

Claim 36 (previously presented): The method of claim 35, the correlation-filtered signal peaks corresponding to positions of marks on a medium, wherein the bandpass filtering attenuates frequencies above a cutoff frequency, the cutoff frequency determined by a low-noise frequency response region of a spectrum representative of each mark.

Claim 37 (original): The method of claim 36, wherein the medium is magnetic tape.

Claim 38 (original): The method of claim 37, wherein the marks are servo marks on the tape.

Claim 39 (original): The method of claim 38, wherein the servo marks are optically detectable.

Claim 40 (original): The method of claim 39, wherein the servo marks are optically detectable on a surface of the tape opposite a magnetic surface of the tape.

Claim 41 (currently amended): A correlation receiver for detecting a pulse input signal comprising:

a bandpass filter, having a transfer function ~~shape~~, for bandpass filtering the input signal;

a correlation filter for correlation filtering the bandpass filtered signal, the correlation filter having a transfer function ~~shape substantially similar to~~based upon the transfer function ~~shape~~ of the bandpass filter; and

a detector for detecting peaks of the correlation-filtered signal.

Claim 42 (previously presented): The correlation receiver of claim 41, the correlation-filtered signal peaks corresponding to positions of marks on a medium, wherein the bandpass filter attenuates frequencies above a cutoff frequency, the cutoff frequency determined by a low-noise frequency response region of a spectrum representative of each mark.

Claim 43 (original): The correlation receiver of claim 42, wherein the medium is magnetic tape.

Claim 44 (original): The correlation receiver of claim 43, wherein the marks are servo marks on the tape.

Claim 45 (original): The correlation receiver of claim 44, wherein the servo marks are optically detectable.

Claim 46 (original): The correlation receiver of claim 45, wherein the servo marks are optically detectable on a surface of the tape opposite a magnetic surface of the tape.

Claim 47 (currently amended): The method of claim 35, wherein detecting peaks comprises:

determining whether an amplitude of a pulse of the correlation-filtered signal exceeds by at least a first delta value an amplitude of a prior peak; and, if so, ~~designating the pulse of the correlation-filtered signal as a peak and~~ setting an amplitude of ~~the~~a new peak as the amplitude of the prior peak increased by a second delta value.

Claim 48 (currently amended): The correlation receiver of claim 41, further comprising: a master peak detector for determining whether an amplitude of a pulse of the correlation-filtered signal exceeds by at least a first delta value an amplitude of a prior peak, and, if so, ~~designating the pulse of the correlation filtered signal as a peak and~~ setting an amplitude of ~~the~~a new peak as the amplitude of the prior peak increased by a second delta value.